



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,534	01/15/2002	Brian A. Urbach	TRW(M)5857	4987
26294	7590	05/21/2004	EXAMINER	
TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 526 SUPERIOR AVENUE, SUITE 1111 CLEVEVLAND, OH 44114			GARCIA, ERNESTO	
			ART UNIT	PAPER NUMBER
			3679	

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

10/047,534

Applicant(s)

URBACH, BRIAN A.

Examiner

Ernesto Garcia

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Drawings***

New corrected drawings are required in this application because the drawings changes filed on 09/16/03 were approved. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "a socket connected with the first suspension member" as recited in claim 1 in lines 11-12, "third frustoconical surface" and "fourth frustoconical surface", as recited in claim 1, are not recited in the specification. Furthermore, the subject matter of claims 10 and 11 are not in the disclosure.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3679

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stroh, 6,257,795 (see marked-up attachment), in view of Sommerer, 5,062,655 (see marked-up attachment) and Greubel et al, 6,416,135.

Regarding claim 1, Stroh discloses, in Figure 3, an apparatus comprising a first suspension member 1, a second suspension member 2, a socket A8, a one-piece stud 10, and a fastener 11. The second suspension member 2 has a through hole 8 with a first surface 13 and a second surface 15. The first surface 13 defines a first end A5 and the second surface 15 defines a second end A7 of the through hole 8. The first surface 13 and the second surface 15 converge toward a center A20 of the second suspension member 2. A cylindrical surface A21 is interposed between the first surface 13 and the second surface 15 and defines a central portion A22 of the through hole 8.

The socket A8 is connected with the first suspension member 1. The stud 10 has a first end portion A10 and a second end portion 7. The socket A8 supports the first end portion A10 in the socket A8. The second end portion 7 projects from the socket A8 and completely through the through hole 8. The second end portion 7 has a third surface 12 in engagement with the first surface 13. The fastener 11 is secured to the second end portion 7. The fastener 11 has a fourth surface 15 in engagement with

the second surface **15** of the second suspension member **2**. The second end portion **7** extends completely through the fastener **11**.

The socket **A8** and the stud **10** support the first suspension member **1**. The fastener **11** causes the first surface **13** and the third surface **12** to be pressed together, and the second surface **15** and the fourth surface **15** to be pressed together to secure the second suspension member **2** relative to the second end portion **7** of the stud **10**.

However, Stroh fails to disclose the first surface **13**, the second surface **15**, the third surface **12**, and the fourth surface **15** being frustoconical. Sommerer teaches, in Figure 2, a first surface **B1**, a second surface **B2**, a third surface **B3**, and a fourth surface **B4** being frustoconical. Sommerer does not explicitly explain why the surfaces are frustoconical. It appears that frustoconical surfaces are an alternative configuration for mating and aligning parts together. Applicant is urged to view Greubel et al. for support of choosing the surface to be spherical or frustoconical (col. 3, line 61 - col. 4, line 10). Therefore, as taught by Sommerer and Greubel et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the surfaces frustoconical to mate and align parts together.

Regarding claim 2, as modified above, the stud **10** has a longitudinal central axis **A15** on which the third surface **12** is centered. The third surface **12** of the stud **10** extends at a first angle **A23** to the central axis **A15**. The first surface **13** and the second

Art Unit: 3679

surface **15** of the second suspension member **2** extend at the first angle **A23** relative to the central axis **A15**.

Regarding claim 3, the fourth surface **15** on the fastener **11** extends at the first angle **A23** relative to the central axis **A15** when the fastener **11** is secured to the second end portion **7** of the stud **10**.

Regarding claim 4, the third surface **12** extends at a 45-degree angle to the central axis **A15**. Applicant is reminded that the third surface **12** extends from 0 to 90 degrees and 45 degrees is one of the angles in between.

Regarding claim 5, the fastener **11** is a nut and the second end portion **7** of the stud **10** has a threaded end portion (col. 2, lines 47-49).

Regarding claims 6 and 8, the second end portion **7** of the stud **10** has a cylindrical portion **A24** extending from the third surface **12** of the stud **10** in a direction away from the first end portion **A10** of the stud **10**. The cylindrical portion **A24** has a diameter **A25** smaller than a smallest diameter **A26** of the third surface **12** of the stud **10**. The cylindrical portion **A24** of the second end portion **7** of the stud **10** is spaced away from and extends parallel to the cylindrical surface **A21** of the second suspension member **2** when the cylindrical surface **A21** is in abutting engagement with the first surface **13**.

Regarding claim 7, the stud **10** has a longitudinal central axis **A15** on which the third surface **12** is centered. The third surface **12** of the stud **10** extends at a first angle **A23** to the central axis **A15**. The first surface **13** and the second surface **15** of the second suspension member **2** extend at the first angle **A23** relative to the central axis **A15**. The fourth surface **15** extends at the first angle **A23** to the central axis **A15** when the fastener **11** is secured to the second end portion **7** of the stud **10**. The fastener **11** is a nut and the second end portion **7** of the stud **10** has a threaded end portion (col. 2, lines 47-49).

Regarding claim 10, as modified above, the first surface **13** and the cylindrical surface **A21** converge with one another in the through hole **8** the second suspension member **2**. The second surface **15** and the cylindrical surface **A21** converge with one another in the through hole **8** in the second suspension member **2**.

Regarding claim 11, as modified above, the cylindrical surface **A21** extends from the first surface **15** to the second surface **15** so that the first surface **13**, the second surface **15** and the cylindrical surface **A21** entirely form the through hole **8** in the second suspension member **2**.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stroh, 6,257,795, in view of Sommerer, 5,062,655 (see marked-up attachment) and Greubel et al, 6,416,135, as applied to claims 1-8, and further in view of Pazdirek et al., 6,505,989.

Regarding claim 9, Stroh, as discussed above, discloses the second end portion 7 of the stud 10 includes a terminal end **A27**. The terminal end **A27** is located on a side **A28** of the fastener 11 opposite the first end portion **A10** when the fastener 11 is secured to the second end portion 7 of the stud 10. However, Stroh fails to disclose the terminal end **A27** having a hexagonal configuration. Pazdirek et al. teach in Figure 2 a terminal end having a hexagonal configuration (see Fig. 1 from the top view). Pazdirek et al. do not elaborate on this feature. It appears however, that the hexagonal configuration prevents the stud from being rotated in a through hole when a fastener is fastened to a threaded portion of the stud. Therefore, as taught by Pazdirek et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the terminal end have the hexagonal configuration to prevent the stud from slipping in the through hole when the fastener is fastened to the stud.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 9:30-6:00. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 703-308-2686. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



E.G.

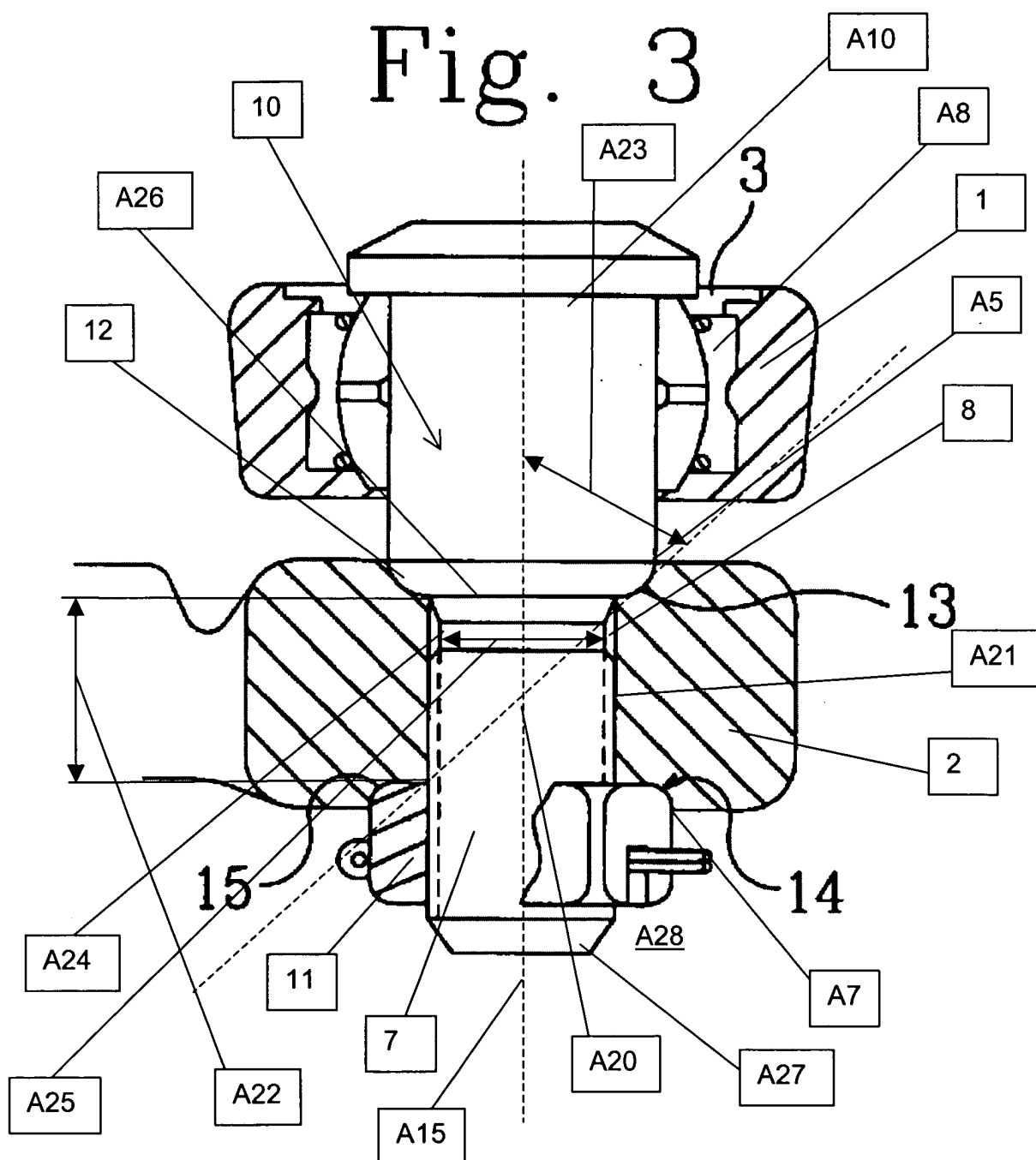
May 14, 2004

Attachments: one marked-up copy of Stroh, 6,257,795; and,  
one marked-up copy of Sommerer, 5,062,655.



DANIEL P. STODOLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

Fig. 3



Art Unit: 3679

5,062,655 (Sommerer)

